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## REMARKS

Claims 1-3, 5-32 and 34-56 are pending in this application. Claims 1-3, 5-32 and 34-56 have been rejected. Claims 1, 3, 5, 11, 21, 22, 25, 29, 31, 39, 49 and 50 have been amended. No new matter has been added. Applicants submit that claims are patentable and in condition for allowance. Applicants respectfully request reconsideration of the outstanding rejections and allowance of all pending claims in view of the reasons set forth below.

### I. Claim Rejections under 35 U.S.C. § 102

Claims 1-3, 5-7, 11-13, 17, 20, 29-32, 34-35, 39, 40-41, 45 and 48 are rejected under 35 U.S.C. § 102(b) as being anticipated by Shannon et al., "Mapping the Interface Description Language Type Model in C", November 1989, IEEE Transactions on Software Engineering, Vol. 15. No. 11, (hereinafter "Shannon"). Applicants respectfully traverse the rejection.

#### A. Claim 1

Ameded claim 1 recites:

"In a computing device, a method comprising:
providing a first function in a first programming language;
deriving a definition of the first function;
creating description information about the first function using the definition of the first function;
translating the first function in the first programming language into a corresponding function in a second programming language using the definition of the first function;
generating a function library containing the corresponding function in the second programming language and the description information;
storing the function library;
translating a first file in the first programming language to a corresponding file in the second programming language, the first file comprising one or more calls to the first function, the translating comprising:
         accessing the description information about the first function for each of the one or more calls to the first function; and
         using the description information to create each call to the corresponding function in the second programming language while avoiding accessing the first function."

As will be elaborated upon below, Shannon does not disclose "a first programming language." Shannon further does not disclose "generating a function library containing the corresponding function in the second programming language and the description information," and "translating a first file in the first programming language to a corresponding file in the second programming language, the first file comprising one or more calls to the first function,

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the translating comprising accessing the description information about the first function for each of the one or more calls to the first function," as required by claim 1. As such, Applicants respectfully request reconsideration of the outstanding rejection.

Shannon discusses how to map IDL structure specifications into data structure declarations of the C programming language, (page 1333, right column, § 1). IDL is an interface definition language for describing the characteristics of data structures passed among collections of cooperating processes in a programming environment, (page 1333, abstract). Shannon discusses an IDL translator for mapping descriptions of structures such as classes or functions into code fragments in one of several target programming languages, (page 1333, left column, § 1). The IDL translator of Shannon does not map from one programming language to another; rather the IDL translator maps from an IDL specification to a programming language.

Claim 1 is amended to recite "a first programming language." Support for this amendment can be found specifically at paragraphs [0002], [0016] and [0028] of the Present Application Specification. Applicants submit that IDL is not a programming language. Shannon clearly indicates that IDL is an interface definition language. Shannon discusses using the IDL translator to map IDL specifications into code fragments in several target programming languages, (page 1333, left col., ¶ 1). Shannon indicates that IDL is used to specify intermediate representations communicated between phases of compilers, (page 1333, left col., ¶ 1). Furthermore, Shannon states that IDL is *language-independent*, (page 1333, right col., ¶ 9). Thus, IDL is not a programming language. Shannon does not disclose "a first programming language," as required by claim 1.

Shannon does not disclose "generating a function library containing the corresponding function in the second programming language and the description information," as required by claim 1. Shannon discusses using the IDL translator to map the IDL declarations into C declarations. However, Shannon does not disclose generating a function library. Shannon is silent about generating a function library containing the corresponding function in the second programming language and the description information.

Moreover, Shannon does not disclose "translating a first file in the first programming language to a corresponding file in the second programming language, the first file comprising one or more calls to the first function, the translating comprising accessing the description

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information about the first function for each of the one or more calls to the first function," as required by claim 1. Shannon is silent about a file including one or more calls to a function in the first programming language. Nowhere in the disclosure Shannon indicates accessing the description information about the first function for each of the one or more calls to the first function. Furthermore, Shannon does not disclose translating a file in a first programming language to a corresponding file in a second programming language. Shannon merely describes translating from IDL to a programming language.

Shannon does not disclose each and every element of amended claim 1. Accordingly, Applicants respectfully request the Examiner to reconsider and withdraw the rejection of claim 1 under 35 U.S.C. § 102(b).

### B. Claims 2-3 and 5-7

Claims 2-3 and 5-7 depend on claim 1 and, as such, incorporate each and every element of claim 1. Therefore claims 2-3 and 5-7 are allowable for at least the same reasons discussed above for claim 1. Accordingly, Applicants respectfully request the Examiner to reconsider and withdraw the rejection of claims 2-3 and 5-7 under 35 U.S.C. § 102(b).

### C. Claim 11

Amended claim 11 recites similar elements to claim 1. Claim 11 recites, among other elements:

> "providing a first program file in the first programming language, the first program file containing one or more calls to the function in the first programming language," and
> "using the description information to translate each of the one or more calls to the function in the first programming language into a call to a corresponding function in a second programming language."

As presented above regarding claim 1, Shannon does not disclose a "first program file in the first programming language, the first program file containing one or more calls to the function in the first programming language." Furthermore, Shannon is silent about "using the description information to translate each of the one or more calls to the function in the first programming language into a call to a corresponding function in a second programming language," as required by claim 11. Shannon does not anticipate claim 11 as Shannon fails to

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disclose each and every element of claim 11. Accordingly, Applicants respectfully request the Examiner to reconsider and withdraw the rejection of claim 11 under 35 U.S.C. § 102(b).

### D. Claims 12-13, 17 and 20

Claims 12-13, 17 and 20 depend on claim 11 and, as such, incorporate each and every element of claim 11. Claims 12-13, 17 and 20 are therefore allowable for at least the same reasons presented above for claim 11. Accordingly, Applicants respectfully request the Examiner to reconsider and withdraw the rejection of claims 12-13, 17 and 20 under 35 U.S.C. § 102(b).

### E. Claims 29-32 and 34-35

Claims 30-32 and 34-35 depend on claim 29 and, as such, incorporate each and every element of claim 29. Claim 29 recites similar elements to claim 1. Specifically, claim 29 recites, among other elements, to "translate a first file in the first programming language to a corresponding file in the second programming language, the first file comprising one or more calls to the first function, the translating causing the processor to access the description information about the first function for each of the one or more calls to the first function." In light of the arguments presented above with respect to claim 1, Applicants submit that claims 29-32 and 34-35 include patentable features. Applicants respectfully submit that Shannon does not disclose each and every element of claims 29-32 and 34-35. Accordingly, Applicants respectfully request the Examiner to reconsider and withdraw the rejection of claims 29-32 and 34-35 under 35 U.S.C. § 102(b).

### F. Claims 39-41, 45 and 48

Claims 40-41, 45 and 48 depend on claim 39 and, as such, incorporate each and every element of claim 39. Claim 39 recites similar elements to claim 11. Specifically, claim 39 recites, among other elements, a "first program file in the first programming language, the first program file comprising one or more calls to the function in the first programming language," and to "use the description information to translate a call to the function in the first programming language into a call to a corresponding function in a second programming language." In light of the arguments presented above with respect to claim 11, Applicants submit that claims 39-41, 45

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and 48 include patentable features. Applicants respectfully submit that Shannon does not disclose each and every element of claims 39-41, 45 and 48. Accordingly, Applicants respectfully request the Examiner to reconsider and withdraw the rejection of claims 39-41, 45 and 48 under 35 U.S.C. § 102(b).

II. Claim Rejections under 35 U.S.C. § 103

A. Claims 8-10, 14-16, 18-19, 36-38, 42-44 and 46-47

Claims 8-10, 14-16, 18-19, 36-38, 42-44 and 46-47 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Shannon in view of Bjarne Stroustrup, "the C++ Programming Language", 2nd Edition, copyright 1991 (hereinafter "Stroustrup"). Applicants respectfully traverse this rejection.

1. Claims 8-10

Claims 8-10 depend from independent claim 1 and, as such, incorporate each and every element of claim 1. The combination of Shannon and Stroustrup does not disclose or suggest "translating a first file in the first programming language to a corresponding file in the second programming language, the first file comprising one or more calls to the first function, the translating comprising accessing the description information about the first function for each of the one or more calls to the first function," and "using the description information to create each· call to the corresponding function in the second programming language while avoiding accessing the first function," as required by claim 1.

As presented above, Shannon is silent with respect to "translating a first file in the first programming language to a corresponding file in the second programming language, the first file comprising one or more calls to the first function, the translating comprising accessing the description information about the first function for each of the one or more calls to the first function," as required by claim 1.

Furthermore, Shannon teaches away from the present application. Claim 1 indicates that the description information is used to translate each call to the function in the first programming language to a call in the second programming language without accessing the first function. In

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contrast, Shannon maps the function in the IDL structure to a function in the target language C. As illustrated in Figure 3 of Shannon, the IDL translator *accesses* the first function, e.g. the function structure in the IDL specifications, to create the mapping. The IDL translator of Shannon does *not* avoid "accessing the first function," as required by claim 1.

Stroustrup, alone or in any reasonable combination with Shannon does not disclose or suggest "the translating comprising accessing the description information about the first function for each of the one or more calls to the first function," and "using the description information to create each call to the corresponding function in the second programming language while avoiding accessing the first function," as required by amended claim 1.

Stroustrup describes the programming language C++ by providing a tutorial introduction to C++ and a discussion of design and software development issues, (Stroustrup, Preface). Stroustrup discusses how to present an expression as a command line argument, (Stroustrup p. 87, § 3.1.6). Stroustrup does not concern translations among two programming languages. Stroustrup only concerns with a single programming language, e.g., the C++. Stroustrup, alone or in any reasonable combination with Shannon does not disclose or suggest "the translating comprising accessing the description information about the first function for each of the one or more calls to the first function," and "using the description information to create each call to the corresponding function in the second programming language while avoiding accessing the first function," as required by amended claim 1.

The combination of Shannon and Stroustrup does not disclose or suggest each and every element of claim 1. As such, dependent claims 8-10 are also patentable over Shannon in view of Stroustrup as the combination of Shannon and Stroustrup fail to disclose or suggest each and every element of claims 8-10. Accordingly, Applicants respectfully request the Examiner to reconsider and withdraw the rejection of claims 8-10 under 35 U.S.C. § 103(a).

### 2. Claims 14-16 and 18-19

Claims 14-16 and 18-19 depend on independent claim 11 and hence incorporate each and every element of claim 11.

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Claim 11 recites similar elements to claim 1. Specifically claim 11 recites "using the description information to translate each of the one or more calls to the function in the first programming language into a call to a corresponding function in a second programming language while avoiding accessing the function in the first programming language." As presented above with respect to claim 1, Shannon and Stroustrup fail to disclose or suggest "using the description information to translate each of the one or more calls to the function in the first programming language into a call to a corresponding function in a second programming language while avoiding accessing the function in the first language," as required by claim 11.

Claims 14-16 and 18-19 are patentable over Shannon in view of Stroustrup as the combination of Shannon and Stroustrup fail to disclose or suggest each and every element of claim 11, thus claims 14-16 and 18-19. Accordingly, Applicants respectfully request the Examiner to reconsider and withdraw the rejection of claims 14-16 and 18-19 under 35 U.S.C. § 103(a).

### 3. Claims 36-38

Claims 36-38 depend from independent claim 29 and hence incorporate each and every element of claim 29. Claim 29 recites similar elements to claim 1. Specifically, claim 29 recites translating causing the processor to "access the description information about the first function for each of the one or more calls to the first function," and "use the description information to create a call to the corresponding function in the second programming language while avoiding accessing the first function." In light of the arguments presented above regarding claim 1, Applicants respectfully submit that Shannon, in view of Stroustrup, does not disclose or suggest each and every element of claim 29, thus claims 36-38. Accordingly, Applicants respectfully request the Examiner to reconsider and withdraw the rejection of claims 36-38 under 35 U.S.C. § 103(a).

### 4. Claims 42-44 and 46-47

Claims 42-44 and 46-47 depend from claim 39 and hence incorporate each and every element of claim 39. Claim 39 recites similar elements to claim 11. Specifically, claim 39 recites translating causing a processor to "use the description information to translate each of the one or more calls to the function in the first programming language into a call to a corresponding

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function in a second programming language while avoiding accessing the function in the first

programming language." In light of the arguments presented above regarding claim 11,

Applicants respectfully submit that Shannon, in view of Stroustrup, does not disclose or suggest

each and every element of claim 39, thus claims 42-44 and 46-47. Accordingly, Applicants

respectfully request that the Examiner reconsider and withdraw the rejection of claims 42-44 and

46-47 under 35 U.S.C. § 103(a).

### B. Claims 21-28 and 49-56

Claims 21-28 and 49-56 are rejected under 35 U.S.C. § 103(a) as being unpatentable over

Elmroth et al., "A Web Computing Environment for the SLICOT Library'" December 2000,

Brite-Euram III, Networks Programme NICONET (hereinafter "Elmroth"), in view of Research

Systems, "IDL," copyright 1994 (hereinafter "Research Systems"), further in view of Shannon.

Applicants respectfully traverse this rejection.

### 1. Claim 21

Amended claim 21 recites, among other elements:

"using the description file to translate a program file from the first programming
language into the second programming language, the program file in the first programming
language comprising one or more calls to a function in the library file, translating each call to the
function in the first programming language into a call to a corresponding function in the second
programming language."

Elmroth, in view of Research Systems, further in view of Shannon does not disclose or

suggest "using the description file to translate a program file from the first programming

language into the second programming language, the program file in the first programming

language comprising one or more calls to a function in the library file, translating each call to the

function in the first programming language into a call to a corresponding function in the second

programming language," as required by claim 21.

Elmroth discusses a prototype computing environment for computations related to the

design and analysis of control systems using Subroutine Library In Systems and Control Theory

(SLICOT) software library. Elmorth indicates solving algebraic equations such as Riccati

Equations using SLICOT. Elmroth is concerned with storing and keeping data accessible to a

user, (page 7, ¶ 3). Elmroth indicates that all data on the server can also be converted to

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different formats, e.g., MATLAB binaries, (page 7, ¶ 4). However, converting data to different formats is not the same as translating a call to a function in a first programming language, to a call to a corresponding function in a second programming language. Elmroth, alone or in any reasonable combination with Shannon, does not disclose or suggest "using the description file to translate a program file from the first programming language into the second programming language, the program file in the first programming language comprising one or more calls to a function in the library file, translating each call to the function in the first programming language into a call to a corresponding function in the second programming language," as required by claim 21. Research Systems fails to cure the shortcomings of Elmroth and Shannon.

The IDL of Research Systems is a software for data analysis, visualization and application development. The meaning of the acronym "IDL" in the Shannon reference and in the Research Systems reference is different. As used by Research Systems, IDL stands for Interactive Data Language. As used in the Shannon reference, IDL means Interface Description Language. IDL provides tools for importing and displaying data sets. Displays can be line plots, 2-D images or 3-D renderings. As such, IDL of Research Systems is a visualization tool.

The Examiner indicates that "converting functions in one language into a corresponding functions in another language, like from Math functions to C program as thought by Research Systems," (Office Action, page 11, lines 12-13). Applicants respectfully disagree. Research Systems do not disclose, teach or suggest conversions between two programming languages. According to Research Systems, IDL is an array-oriented, fourth generation programming language, (Research Systems, page 1, "what is IDL"). IDL is a language that has capabilities to visualize a data set using plots and graphics. However, IDL of Research Systems, alone or in any reasonable combination with Elmroth and Shannon, does not disclose or suggest "using the description file to translate a program file from the first programming language into the second programming language, the program file in the first programming language comprising one or more calls to a function in the library file, translating each call to the function in the first programming language into a call to a corresponding function in the second programming language," as required by claim 21.

As such, Applicants respectfully submit that claim 21 is patentable over Elmroth in view of Research Systems in further view of Shannon as the combination of Elmroth, Research

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Systems and Shannon fail to disclose or suggest each and every element of claim 21. Accordingly, Applicants respectfully request the Examiner to reconsider and withdraw the rejection of claim 21 under 35 U.S.C. § 103(a).

### 2. Claims 22-28

Claims 22-28 depend from independent claim 21 and hence incorporate each and every element of claim 21. Claims 22-28 are therefore allowable for at least the same reasons as claim 21. In view of the above comments, Applicants kindly request the Examiner to reconsider and withdraw the rejection of claims 22-28 under 35 U.S.C. § 103(a).

### 3. Claims 49-56

Claims 50-56 depend on claim 49 and hence incorporate each and every element of claim 49. Claim 49 recites similar elements to claim 21. Specifically, claim 49 recites to "use the description file to translate a program file from the first programming language into the second programming language, the program file in the first programming language comprising one or more calls to a function in the library file, translating each call to the function in the first programming language into a call to a corresponding function in the second programming language." As presented above, the combination of Elmroth, Research Systems and Shannon do not disclose or suggest to "use the description file to translate a program file from the first programming language into the second programming language, the program file in the first programming language comprising one or more calls to a function in the library file, translating each call to the function in the first programming language into a call to a corresponding function in the second programming language," as required by claim 49, and thus claims 50-56. Applicants respectfully submit that Elmroth in view of Research Systems in further view of Shannon also fails to detract from the patentability of claims 49-56. Accordingly, Applicants respectfully request the Examiner to reconsider and withdraw the rejection of claims 49-56 under 35 U.S.C. § 103(a).

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## CONCLUSION

In view of the above amendments and comments, Applicants believe the pending application is in condition for allowance and urges the Examiner to pass the claims to allowance. Should the Examiner feel that a teleconference would expedite the prosecution of this application, the Examiner is urged to contact the Applicants' attorney at (617) 227-7400.

Please charge any shortage or credit any overpayment of fees to our Deposit Account No. 12-0080, under Order No. MWS-077RCE3. In the event that a petition for an extension of time is required to be submitted herewith, and the requisite petition does not accompany this response, the undersigned hereby petitions under 37 C.F.R. § 1.136(a) for an extension of time for as many months as are required to render this submission timely. Any fee due is authorized to be charged to the aforementioned Deposit Account.

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Respectfully submitted,

By _____
Kevin J. Canning
Registration No.: 35,470
LAHIVE & COCKFIELD, LLP
One Post Office Square
Boston, Massachusetts 02109-2127
(617) 227-7400
(617) 742-4214 (Fax)
Attorney/Agent For Applicant

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